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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,322	03/30/2005	Dorothee Martin	259732US0PCT	7539
22850	7590	05/14/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER BREVAL, ELMITO	
			ART UNIT	PAPER NUMBER
			2889	
			NOTIFICATION DATE	DELIVERY MODE
			05/14/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/509,322	Applicant(s) MARTIN ET AL.	
	Examiner ELMITO BREVAL	Art Unit 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 19-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/06/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The preliminary amendment filed on 10/06/04 has been entered.

Election/Restrictions

Claims 19-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claims, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 02/29/2008.

Drawings

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8, 9-18, and 26-27 are rejected under 35 U.S.C. 103(a) as being obvious over Martin et al., (US. Pub: 2003/0137230) in view of Jousse et al., (US. Pub: 2002/0187299).

The applied references have common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I) (1) and § 706.02(I) (2).

Regarding claim 1, Martin ('230) discloses a spacer comprising: a core which does not exhibit electronic conductivity ([00030]) and wherein the glass spacer is capable of providing an electronic conductivity at 50°C of 10×10^{-13} to $10 \text{ ohm}^{-1} \cdot \text{cm}^{-1}$ ([0016]), and also the spacer is capable of maintaining a space between two substrate

(abstract; [0014]) formed from glass sheets ([0002]) over the entire area of the sheet substrates ([0002]), in the surface of the spacer is at least partly electronically conducting ([0030]), and the shape and the constituent material of the spacer provide thermo-mechanical integrity of the substrates in the device ([0040], 'pillars shape' and the materials disclose for example in paragraphs [0021]-[0025]), but fails to expressly disclose at least one coating comprising of a glass exhibiting electronic coated on the core.

Further regarding claim 1, Jousse ('302) in the same field of endeavor teaches a spacer comprised of, in part, a coating layer coating on the lateral surface of the glass fiber ([0061]-[0064]) in order to improve the expansion coefficient and to avoid breakdown of the device.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the coating layer as taught by Jousse into the device of Martin in order to improve the expansion coefficient and to avoid breakdown of the device.

Regarding claim 2, Martin ('230) the spacer has an electronic conductivity of 10×10^{-12} to 10×10^{-2} ohm⁻¹.cm⁻¹ ([0016]).

Regarding claim 3, Jousse ('299) teaches (in paragraph [0062]) the glass coating is made of amorphous silicon and having a low hydrogen content of less than 5%. The reason for combining is the same as for claim 1.

Regarding claim 4, Jousse ('299) teaches (in paragraphs [0063]-[0064]) one of the transition element is Cu. The reason for combining is the same as for claim 1.

Regarding claim 5, Martin ('230) teaches ([0021]-[0025]) the spacer glass has the following composition, in mol% for a total of 100 mol %:

(A) SiO₂25-75

(B) at least one oxide of a

transition element of Groups IB, IIIB, VB, VIB, VIIB and VIII of the Periodic Table

of the Elements that optionally exist in a number of oxidation states as defined in 1-30

(C) Al₂O₃0-40

(D) ZrO₂0-10

(E) at least one material selected from the group consisting of Li₂O, Na₂O and

K₂O0-10

(F) at least one material selected from the group consisting of MgO, CaO, SrO and

BaO 0-40

(H) B₂O₃0-30

(I) P₂O₅0-5

(J) TiO₂0-10

(K) ZnO0-10

(M) additives0-1

(N) impuritiescomplement to 100 mol%.

Regarding claim 6, Jousse ('299) teaches (in paragraph [0071]) the coating consists of one or more thin layer (s). The reason for combining is the same as for claim 1.

Regarding claim 8, Jousse ('299) teaches (in paragraph [0061]) the lateral surface of the fibre is covered at least partly with a conductive coating and this may be obtained, for example, using a gas-phase pyrolysis technique, a liquid phase pyrolysis technique or a vacuum deposition technique.

Regarding claim 9, Martin ('230) teaches (in paragraphs [0044]-[0045]) the spacer core (i.e. the glass matrix) is glass.

Regarding claim 10, Martin ('230) teaches (in paragraph [0045]) the glass matrix (i.e. the spacer core) has an expansion coefficient measured between 20 and 300 C. of between $60 \text{ and } 95 \times 10 \text{ exp. }^{-7} \text{ K exp.}^{-1}$ and the case of borosilicate-type glass matrices, the expansion coefficient may be between $30 \text{ and } 50 \times 10 \text{ exp. }^{-7} \text{ K exp.}^{-1}$.

Regarding claim 11, Martin ('230) discloses (in paragraph [0044]) the glass matrix (i.e. the glass core) has a temperature corresponding to the strain point of greater than 530°C.

Regarding claim 12, Martin ('230) teaches (abstract) the glass spacer has modulus of elasticity of greater than 90 GPA.

Regarding claim 13, Martin ('230) discloses ([0021]-[0027]) the glass matrix (i.e. the core) comprises the following composition, in mol % for a total of 100 mol %

(A') SiO₂25-75

(C') Al₂O₃0-40

(D') ZrO₂0-10

(E') at least one material selected from the group consisting of Li₂O, Na₂O and

Art Unit: 2889

I200-10

(F') at least one material selected from the group consisting of MgO, CaO, SrO and

BaO0-40

(G') at least one oxide of at least one element selected from the group consisting of Y,

La and elements of the lanthanide series 0-25

(H') B2O30-30

(I') P2O50-5

(J') TiO₂0-10

(K') ZnO0-10

(L') nitrogen in combined form0-20

(M') additives0-1

(N') impuritiescomplement to 100 mol%.

Regarding claim 14, Martin ('230) discloses (in paragraph [0041]) the space has a prismatic shape.

Regarding claim 15, Martin ('230) further discloses (in paragraphs [0033]) the spacer has an electrical resistance to the flow of current between 10×10^{-5} to 10×10^0 ohms.

Regarding claim 16, Martin ('230) teaches (in paragraph [0042]) the spacer has a density of greater than 3.

Regarding claim 17, Martin ('230) teaches (in paragraph [0031]) a black color spacer can be obtained.

Regarding claim 18, Martin ('230) discloses (in paragraphs [0040]) the spacer is of pillars. Also, (in paragraph [0017]) Martin teaches applying a voltage between two platinum electrodes. In addition, in paragraph [0015] Martin further teaches the electronic conductivity property of the spacers is satisfactory for permitting the removal of charges (thus, it is considered within Martin's disclosure the pillars comprise metal electrode deposited on the sections of the pillars to facilitate the removal of surface charges from the spacer to the electrodes).

Regarding claim 26, Martin ('230) discloses (in paragraphs [0001]-[0003]) the device is a display screen, a vacuum glazing and a flat lamp comprising at least two glass sheets (i.e. the two flat substrates).

Regarding claim 27, Martin ('230) discloses ([0001]-[0003]) a display screen, vacuum glazing and a flat lamp comprising at least two glass sheets (i.e. the two flat substrates) separated by spacers as claimed in claim 1.

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al., (US. Pub: 2003/0137230) and Jousse et al., (US. Pub: 2002/0187299) in further view of Yamazaki et al., (US. 2002/0123292).

Regarding claim 7, Martin/Jousse teach all the claimed limitations except for, the thickness of the coating layer is from 1-10,000 nm.

Further regarding claim 7, Yamazaki teaches ([0131]) a method of manufacturing a spacer comprised of, in part, a glass form in a coating thickness of 200 nm for the

Art Unit: 2889

purpose of having a device that can suppress surface charging with a low manufacturing cost.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the glass coating thickness of Yamazaki into the device of Martin/Jousse for the purpose of having a device that can suppress surface charging with a low manufacturing cost.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELMITO BREVAL whose telephone number is (571)270-3099. The examiner can normally be reached on M-F (8:30 AM-5:00 Pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Toan Ton can be reached on (571)-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2889

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 9, 2008
Examiner
Elmito Breval

/Joseph L. Williams/
Primary Examiner, Art Unit 2889